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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee--New Task

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of a new task assignment for the Aviation Rulemaking Advisory Committee (ARAC).

SUMMARY: Notice is given of a new task assigned to and accepted by the Aviation Rulemaking Advisory Committee (ARAC). This notice informs the public of the activities of ARC.

FOR FURTHER INFORMATION CONTACT: Joseph A. Hawkins, Director, Office of Rulemaking, ARM-1, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267-9677 or fax (202) 267-5075.

SUPPLEMENTARY INFORMATION:

Background

The FAA has established an Aviation Rulemaking Advisory Committee to provide advice and recommendations to the FAA Administrator, through the Associate Administrator for Regulation and Certification, on the full range of the FAA's rulemaking activities with respect to aviation-related issues. This includes obtaining advice and recommendations on the FAA's commitment to harmonize its Federal Aviation Regulation (FAR) and practices with its trading partners in Europe and Canada.

The Task

This notice is to inform the public that the FAA has asked ARAC to provide advice and recommendation on the following harmonization task:

Prevention of Fuel Tank Explosions

Prepare a report to the FAA/JAA that provides specific recommendations and proposed regulatory text that will eliminate or significantly reduce the hazards associated with explosive vapors in

transport category airplane fuel tanks. Proposed regulatory text should ensure that new type designs, in-production airplanes and the existing fleet of transport airplanes are designed and operated so that during normal operation (up to maximum certified operating temperatures) the presence of explosive fuel air vapors in all fuel tanks is eliminated, significantly reduced or controlled to the extent that there could not be a catastrophic event. (This task addresses means of reducing explosion hazards by eliminating or controlling explosive fuel vapors. The FAA is also engaged in a separate activity to evaluate whether additional actions should be taken to ensure that ignition sources are not present within fuel tanks. Therefore, control of ignition sources is not within the scope of this task.) In developing recommendations

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to the authorities, a report should be generated that includes the following:

(1) An analysis of the threat of fuel tank explosion due to internal and external tank ignition sources for the major fuel system designs making up the transport fleet, including transport airplanes with heat sources adjacent to or within the fuel tanks. The SAFER data presented to the FAA in 1978, which includes evaluation of fuel tank safety in both operational and post crash conditions, should be used as a starting point for determining the level of safety.

(2) An analysis of various means of reducing or eliminating exposure to operation of transport airplane fuel tanks with explosive fuel air mixtures (e.g. inerting, cooling of lower center tank surfaces, combination of cooling and modified fuel properties, etc.) or eliminating the resultant hazard if ignition does occur (installation of selective/voided/full tank reticulating foam, explosion suppression systems). Technical discussion of the feasibility, including cost/benefit analysis, of implementing each of the options on a fleet retrofit, current production, and new type design airplanes should also be provided.

(3) An analysis of the cost/benefit of modified fuel properties that reduce exposure to explosive vapors within fuel tanks. The FAA has asked industry through the American Petroleum Institute to provide pertinent information on fuel properties. The degree of modification to fuel properties necessary to eliminate or significantly reduce exposure to explosive fuel tank ullage spaces in fleet operation must be determined by the group. Factors that may enhance the benefits of modified fuels, such as cooling provisions incorporated to reduce fuel tank temperatures, should be considered. Cost information for the various options should be developed. Information regarding the effects of modified fuel properties on airplane operations, such as engine air/ground starting at low temperatures, maintenance impact, emissions and fuel freeze point, should be analyzed by the group and be provided.

(4) Review comments to the April 3, 1997, Federal register notice (62 FR 16014) and any additional information such that validated cost benefit data of a certifiable system is provided for the various options proposed by commenters. This information will be used in preparing regulatory action.

Note: In many cases specific cost data provided in the comments

to the notice was competition sensitive; therefore the ARAC group should contact commenters directly and request participation in the group.

(5) Recommended objective regulatory actions that will eliminate, significantly reduce or control the hazards associated with explosive fuel air mixtures in all transport airplane fuel tanks to the extent that there could not be a catastrophic event.

In addition to the above task, the working group should support the FAA in evaluation of application of the proposed regulation to the various types of transport airplanes (turbopropeller, business jets, large transports, and other turbine-powered aircraft types which may be affected by a change in fuel properties/availability) and any impact on small businesses.

This activity will be tasked for a 6-month time limit to complete the task defined above. The FAA will consider the recommendations produced by ARAC and initiate future FAA regulatory action. However, if the group is unable to provide the FAA with proposed regulatory language within this time period, the FAA will initiate rulemaking independently. Participants of the ARAC should be prepared to participate on a full-time basis for a 6-month period if necessary.

ARAC Acceptance of Task

ARAC has accepted this task and has chosen to assign it to a new Fuel Tank Harmonization Working Group. The new working group will serve as staff to the ARAC Executive Committee to assist ARAC in the analysis of the assigned task. Working group recommendations must be reviewed and approved by ARAC. If ARAC accepts the working group's recommendations, it will forward them to the FAA as ARAC recommendations.

The Fuel Tank Harmonization Working Group should coordinate with other harmonization working groups, organizations, and specialists as appropriate. The working group will identify to ARAC the need for additional new working groups when existing groups do not have the appropriate expertise to address certain tasks.

Working Group Activity

The Fuel Tank Harmonization Working Group is expected to comply with the procedures adopted by ARAC. As part of the procedures, the working group is expected to:

1. Recommend a work plan for completion of the task, including the rationale supporting such a plan, for consideration at the ARAC Executive Committee meeting held following publication of this notice.
2. Give a detailed conceptual presentation of the proposed recommendations, prior to proceeding with the work stated in item 3 below.
3. Draft a report and/or any other collateral documents the working group determines to be appropriate.
4. Provide a status report at each meeting of the ARAC Executive Committee.

Participation in the Working Group

The Fuel Tank Harmonization Working Group will be composed of experts having an interest in the assigned task. A working group member need not be a representative of a member of the full committee.

An individual who has expertise in the subject matter and wishes to become a member of the working group should write to the person listed under the caption FOR FURTHER INFORMATION CONTACT expressing that desire, describing his or her interest in the tasks, and stating the expertise he or she would bring to the working group. All requests to participate must be received no later than February 2, 1998. The requests will be reviewed by the ARAC chair, the executive director, and the working group chair, and the individuals will be advised whether or not the request can be accommodated.

The Secretary of Transportation has determined that the formation and use of ARAC are necessary and in the public interest in connection with the performance of duties imposed on the FAA by law.

Meetings of the ARAC Executive Committee will be open to the public. Meetings of the Fuel Tank Harmonization Working Group will not be open to the public, except to the extent that individuals with an interest and expertise are selected to participate. No public announcement of working group meetings will be made.

Issued in Washington, DC, on January 20, 1998.
Joseph A. Hawkins,
Executive Director, Aviation Rulemaking Advisory Committee.
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